

vided then Hidden=1/0 or True/False is required to continue processing the embed tag. If Hidden 1504 is returned, then a Javascript code snippet is placed into the requested page by the Editor which gets both height and width for the plugin to use in decoding the page and the image header is decoded 1506, and the stream ends at NPN-Destroy 1508. If all data from the Embed tag is received 1510 the images are decoded 1512. When standard image files are received 1514, 1516, 1518 then decoding proceeds as to image type 1520, 1522, 1524. Subsequent to decoding, the images are drawn 1526 and the stream ends. When ".trans" image files are received, the plugin first checks to see how many images are contained in the ".trans" image file 1530. It should be remembered that ".trans" image file can contain multiple images per file and that such images may be compressed either as lossy image types, lossless image types, or both. Subsequent to determining the number of images, the plugin then determines image type, 1532. If the image compression is lossless the plugin decodes the image 1534 then draws the image 1526 and the stream ends. If the image compression is lossy 1532 the plugin decodes the image 1536 then draws the image 1526 and the stream ends.

[0068] In a preferred embodiment of the present invention, content and/or data is served and retrieved with algorithms using combinations of filtering and buffered streams.

[0069] In a preferred embodiment of the present invention, distribution/control servers may be pre-loaded with URLs to be compressed. The user may submit URLs and/or personal bookmarks to be compressed. Log files from other servers which contain URLs to be compressed may be submitted to be compressed. In addition, a robot may be used by a network administrator to submit URLs. In general, web pages and content that are frequently accessed by users are preloaded and compressed for faster access in future events.

[0070] Distribution/control/stealth servers may optionally support dual networks by having one machine with two network cards. optionally, as mentioned with respect to the stealth distribution server, the control and/or the distribution server may be configured to retrieve all requested content from a single address. The memory caches residing within the distribution/stealth/control servers or those connected to the servers are preferably of configurable size, thus allowing room for expansion.

[0071] Security and privacy is achievable if desired in the present invention. The servers may support user accounts, so that each user may have bookmarks and other personal preferences which are secure from other users. The preferences, if needed, may be supported using user objects. URL encryption may be provided by the servers to provide an added security feature. Also, tunneling of content through dedicated connections can be used when appropriate for security and speed.

[0072] In a preferred embodiment of the present invention, servers may support multiple connections through the use of threads. However, thread priorities may be configurable and machine independent. The servers may use dynamic thread pools to manage the threads.

[0073] Upon completion of a process or task for a server, a log file is created. This log file may contain information regarding internal errors, file statistics, return error codes, compression statistics, user activity, and other required or

optional information that is deemed valuable to be logged. The log files may have an HTML table format as well as a standard log format, so that they can be easily viewed with a browser.

[0074] The system, servers, and all other equipment, may be configured to self start in case of a severe problem, an abnormal operation, or normal maintenance operation. Thus when a crash to the system occurs, the system is able to restart.

[0075] Variations and editions of the content distribution system (CDS) should be understood to exist. The CDS may edit web pages, replace the content tags with embed or object tags, and/or modify the existing tags and compress the content. The editing may be performed automatically and require no interaction with web masters or server administrators. Another embodiment for the CDS is to compress everything including web pages, but not edit the pages. In both these cases, the content can be compressed in a background process and stored in a cache manager, and may be served from the cache manager the next time it is requested. The compressed content, using the embed tags, object tags, applet tags and/or new content tags causes the content to appear to the client that it is coming directly from the original server. Another preferred embodiment of the present invention provides all of the functionalities mentioned hereinabove, with the additional capability of compressing the content in realtime. In any of the embodiments mentioned hereinabove, the original content may be retrieved by sending a "no cache" request to the server, which tunnels the original content to the client.

[0076] The content distribution system of the present invention can be configured in a variety of ways, as should be understood by those skilled in the art, to perform various tasks. For example, one possible configuration may be a proxy for caching and compressing content for an ISP or LAN. Another task may be its use as a firewall for interpreting requests and serving up compressed content from an inner network of e-commerce and standard web servers.

[0077] The implementation of the aforementioned invention accomplishes high speed content delivery while saving bandwidth and other valuable resources in the network. This is achieved, as mentioned hereinabove, by using a compressed cache and delivering compressed content. The invention decreases the time needed to access an object at a server. The time needed to access an object at the server consists of the response time of the server plus the transmit time of the object. Thus, in slow connections where the transmit time is large, the network uses a lot of time for content delivery. However, if compressed caching is used in the network, the transmit time of frequently used objects is decreased. Hence, faster and more enjoyable content delivery is achieved with huge cost savings to the user and the network manager.

[0078] Although the present invention and its advantages have been described in detail, it should be understood that various changes, substitutions and alterations can be made herein without departing from the spirit and scope of the invention as defined by the appended claims. Moreover, the scope of the present application is not intended to be limited to the particular embodiments of the process, machine, manufacture, composition of matter, means, methods and steps described in the specification. As one of ordinary skill